

McChord AFB, WA



Mid-Air Collision Avoidance



MACCA

MID-AIR COLLISION AVOIDANCE

- Our goal with this presentation is to make all fliers aware of the midair potential in the McChord flying area.
- We, as aviators all have the responsibility to be aware of potential conflicts and **AVOID** them!
 - 65% occur near airports
 - 15% on low-level training routes
 - 10% in military operating areas
- The “big sky” theory is not



You need to know where the “threat” is and how to scan for traffic conflicts.

Keep a lookout for us and we’ll do the same



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Our Location



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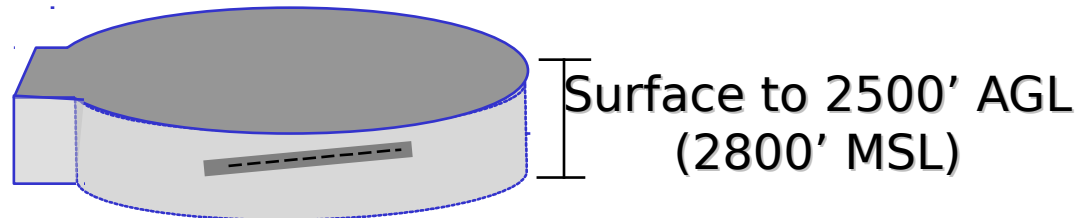
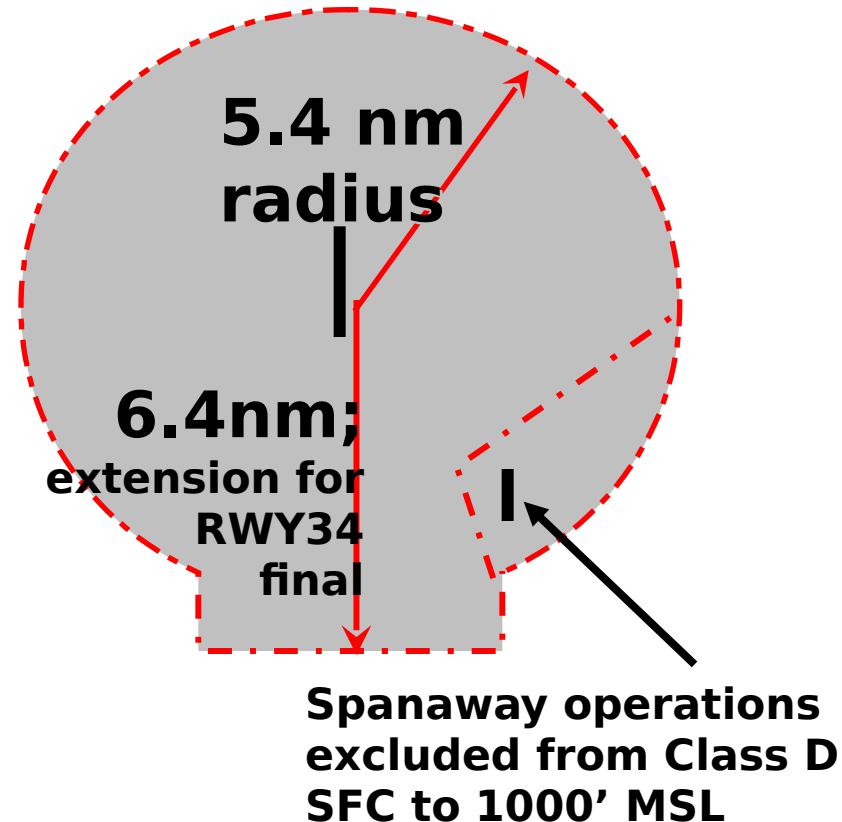
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McChord's Airspace

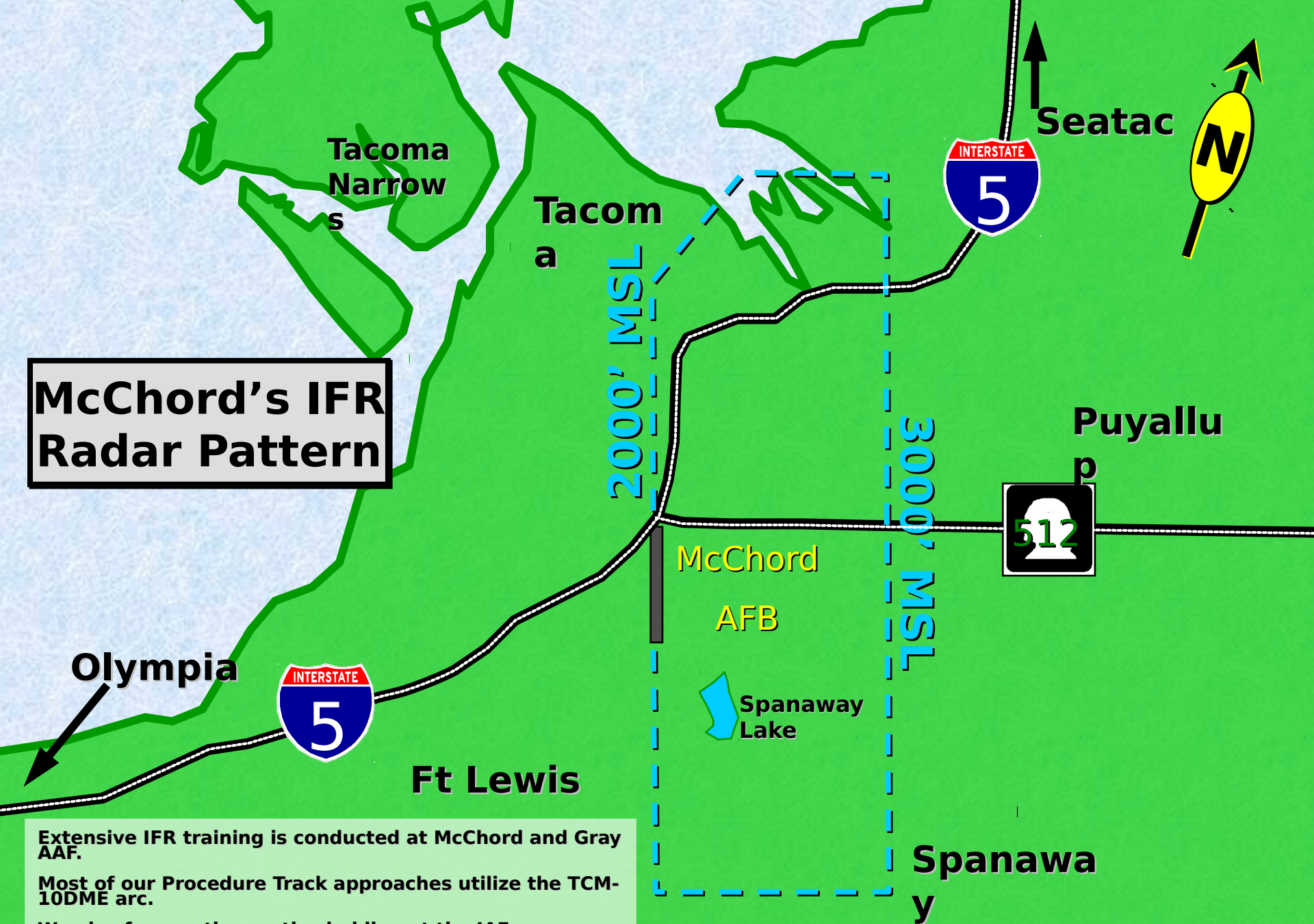


- Class "D" Airspace
- 24 Hours/Day
- VFR Transitions are not a problem
- Two-way radio communications required to enter class D

Contact McChord
Tower on
124.8



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Most local IFR work is done at altitudes of 2,000, 3,000, and 4,000 feet MSL until on final approach.



**Noise Sensitive
Avoidance
Areas**

Point
Defiance

Point



Tacom

a

**Pattern
Altitudes:**

**VFR: 1800' MSL
OVHD: 2300'
MSL**

**Local Pattern
Procedures
Rwy 16/34**

**Puyallu
p**



Lakewood



**Circling
airspace is
west of the
field at 940'
MSL**

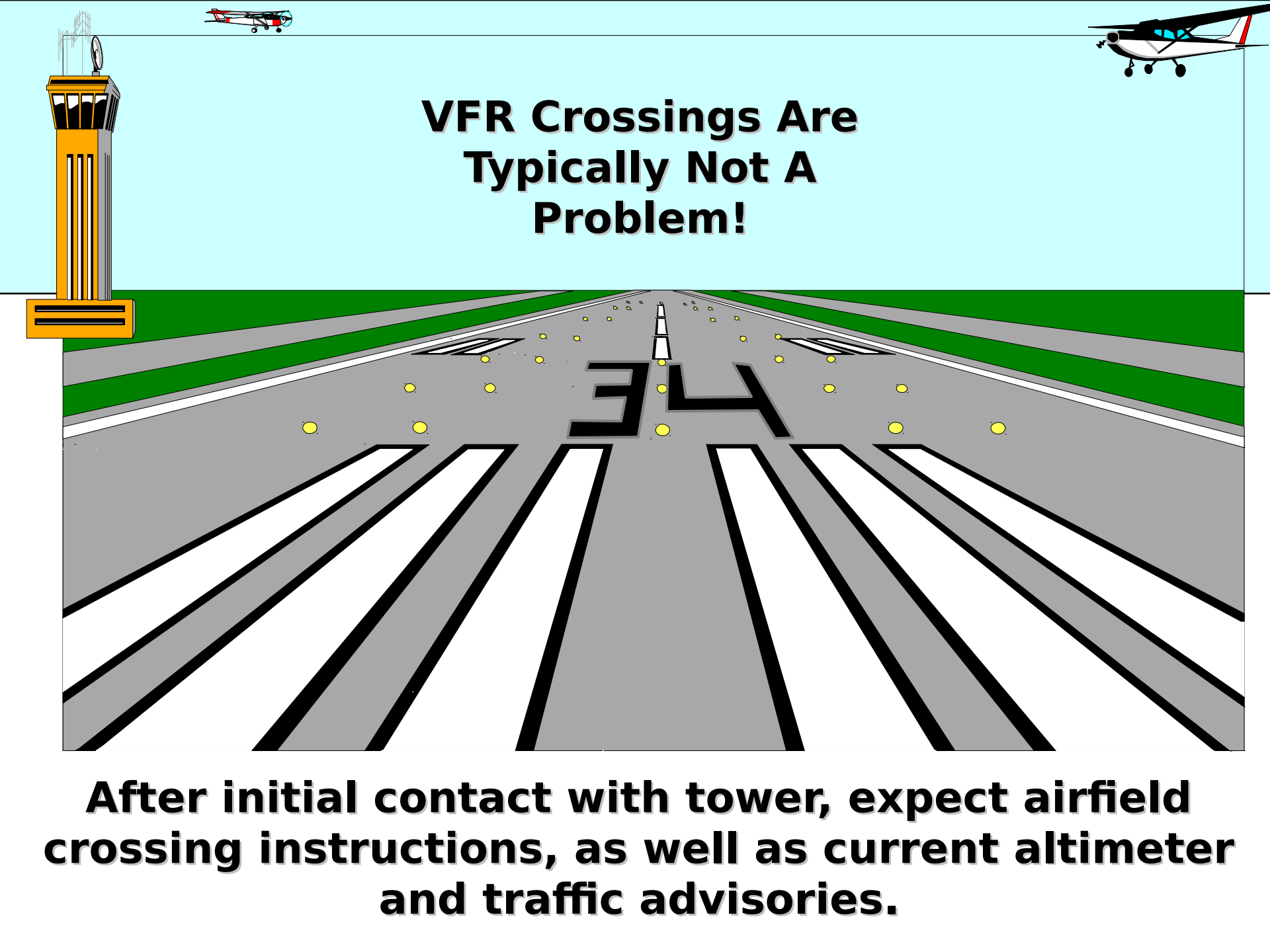
9
1
3
4

**Spanaway
Lake**

**Military aircraft
avoid overflight
of Spanaway
Lake for noise
abatement**

Spanaway

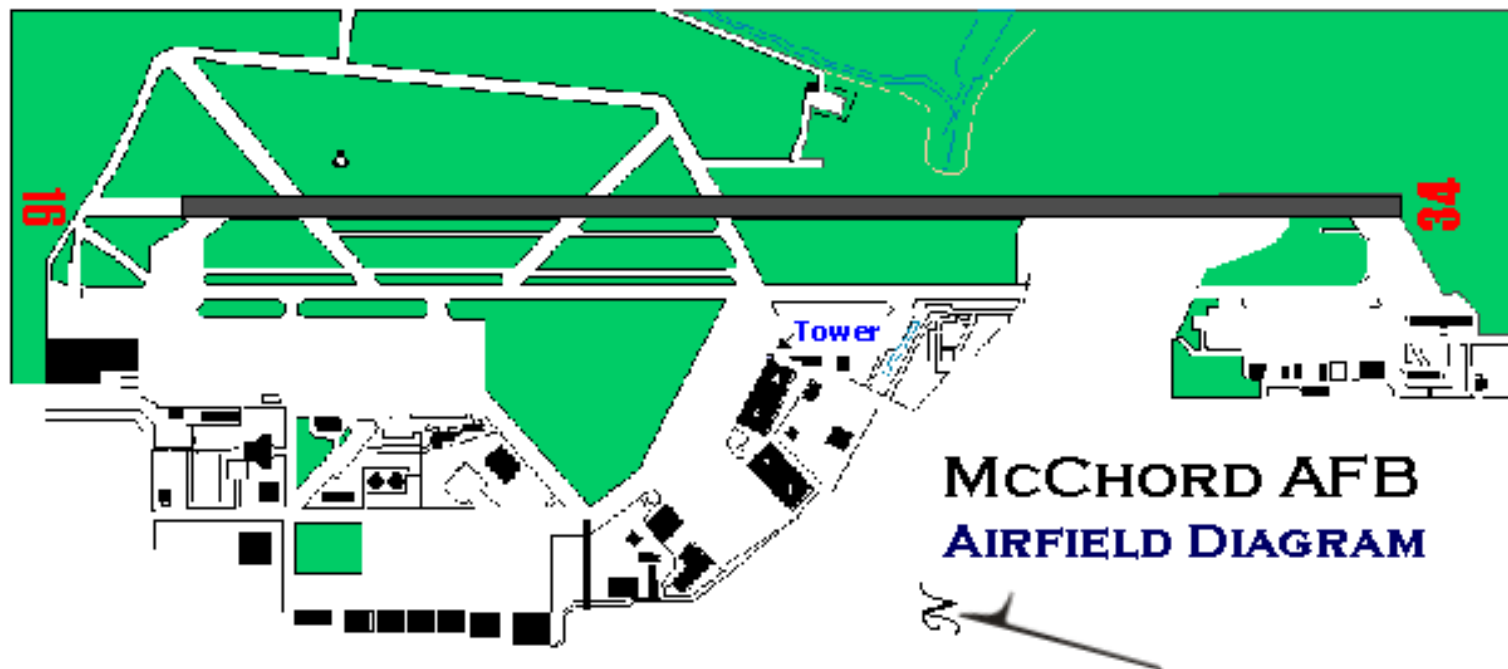
PACIFIC AVE

An illustration of an airport runway scene. On the left, there is a yellow air traffic control tower with a radar dome on top. In the top left corner, a small propeller plane is flying. In the top right corner, a larger twin-engine propeller plane is flying. The runway itself is a grey asphalt surface with white dashed lines on the sides and a center line. Yellow lights are scattered along the runway. In the distance, the runway leads to a horizon line under a light blue sky. The text "VFR Crossings Are Typically Not A Problem!" is centered in the upper half of the image.

VFR Crossings Are Typically Not A Problem!

After initial contact with tower, expect airfield crossing instructions, as well as current altimeter and traffic advisories.

McChord's Airfield Diagram



McCHORD HAS ONE 10,100 FOOT (34/16) RUNWAY WITH RIGHT TRAFFIC PATTERNS TO RUNWAY 34 AND LEFT TO RUNWAY 16.

NAVAIDS - VORTAC (TCM 109.6/Ch 33)

ILS (INSTRUMENT LANDING SYSTEM) TO RUNWAY 34 AND 16.

McCHORD TOWER IS OPERATIONAL 24 HRS. A DAY (freq. 124.8)



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Aerial Views



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McChord is host to many different transient aircraft . In the course of the year, you will share airspace with fighters, bombers, tankers, transports, and helicopters. The most common transient aircraft are:

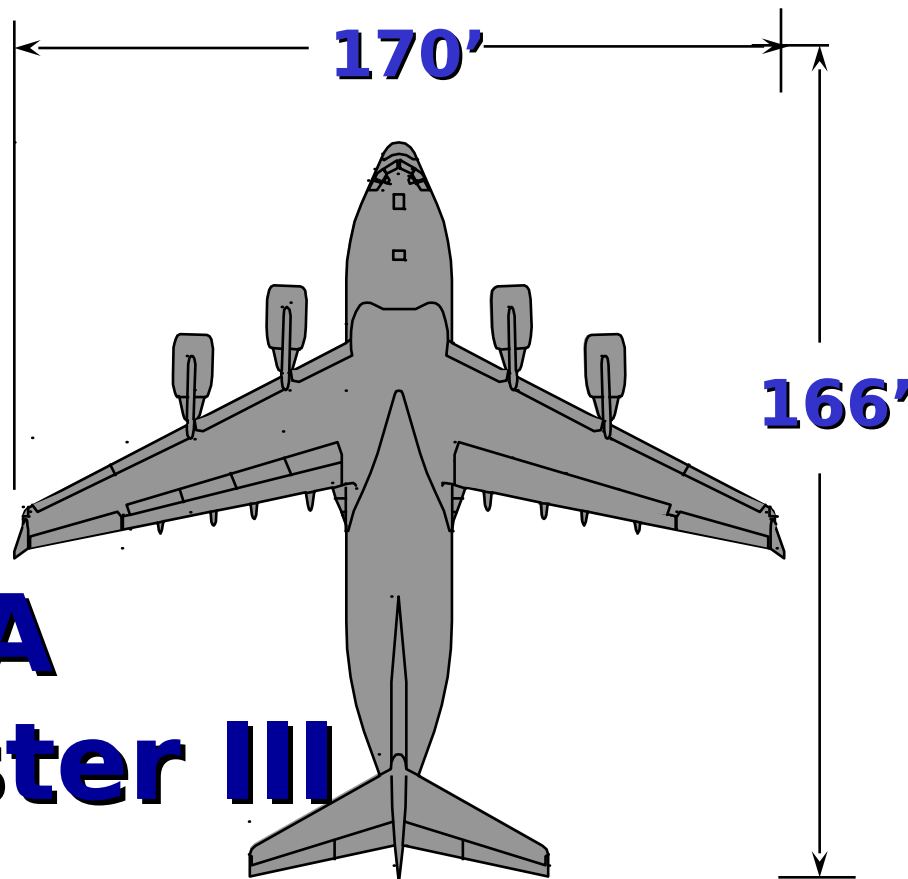




McChord's Primary Aircraft



**C-17A
Globemaster III**



169,000 LBS CARGO

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C-17

The C-17 is the Air Force's newest and most dynamic airlifter. With both strategic and tactical utility, the C-17 can deliver cargo and troops anywhere, anytime.



C-17

McChord owns 51
Globemaster IIIs.

At any time, generally
more than 50% are
enroute supporting
global mobility
operations.

Wingspan: 170 feet
Length: 166 feet
Max Takeoff Weight: 585,000
Lbs
Max Cruise Speed: 350
kts/.825M
Approach Speed: 105 - 135
kts
Low Level Speed: avg. 300

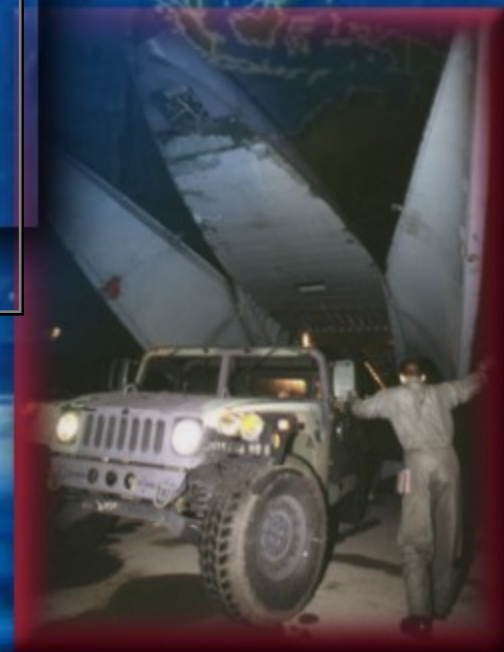
A large military transport aircraft, a C-17 Globemaster III, is shown in flight from a low angle. The aircraft is white with "U.S. AIR FORCE" written on the side. It has four engines mounted on the wings. In the background, another aircraft is visible in the sky. Below the aircraft, a cityscape with various buildings and structures is visible under a blue sky with some clouds.

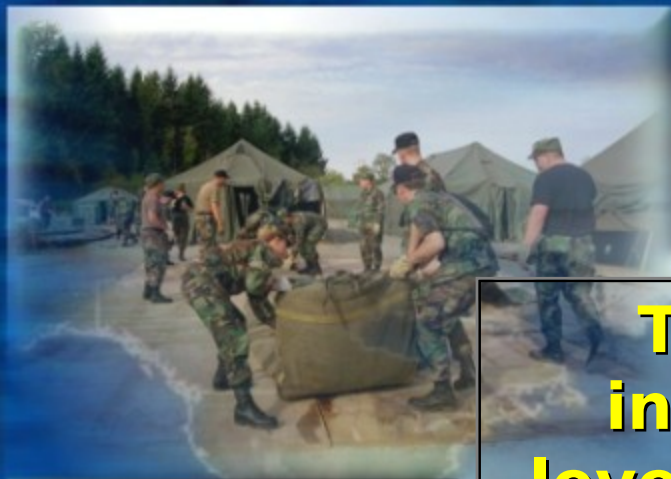
**Call signs for McChord's
aircraft, depending on the
mission will be:**

**REACH, SONIC, HUSKY, COHO, SKAGIT,
DANDA, RAWLY, HIRE, HARD, STORK,
KITSAP, & MISTY**

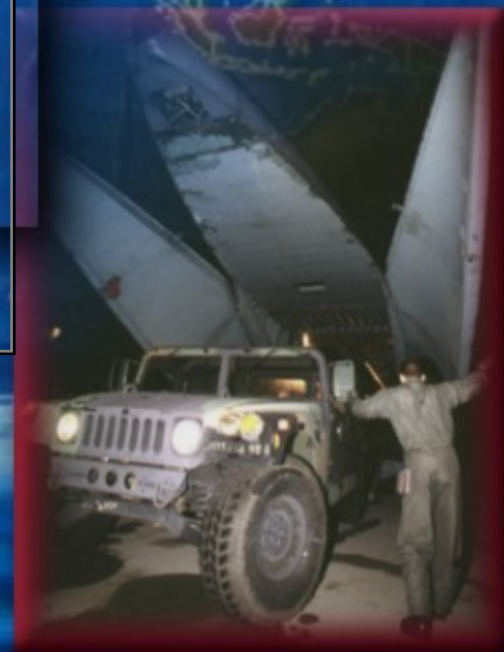


Although our missions range worldwide, McChord aircraft conduct frequent and diverse training in the South Puget Sound area.



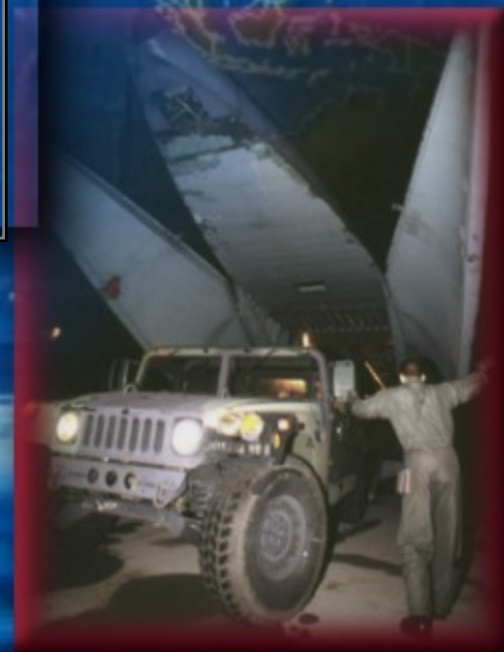


This training includes: low-levels, airdrops, air-refueling, tactical approaches, IFR and visual proficiency, as well as traffic pattern work

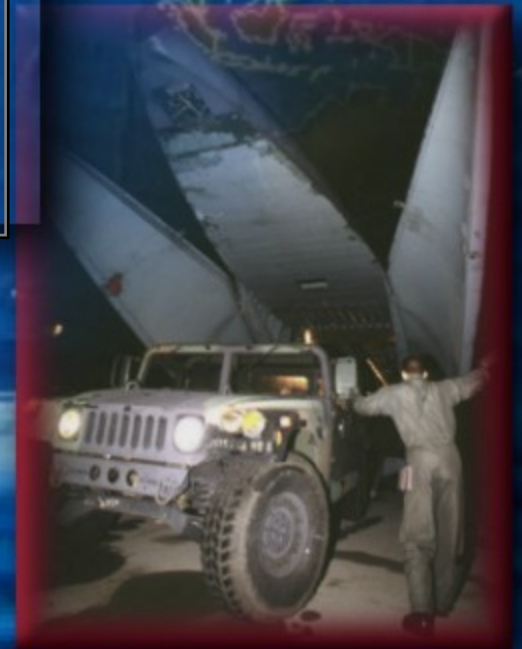




**Low-level routes
are flown as low as
300 feet
AGL**



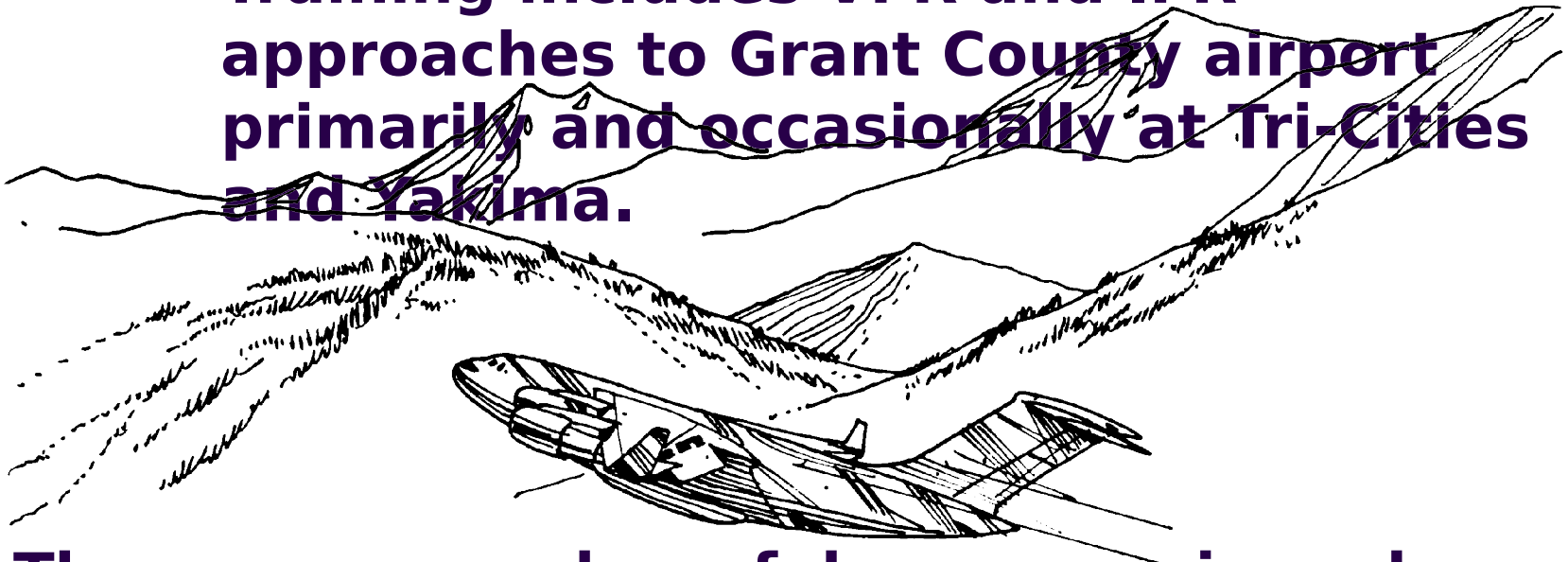
**Airspeeds along
the low-level
routes vary from
150 to 350 knots.**





McChord C-17s also conduct low-level training missions within a 50-mile radius of Moses Lake and Yakima, Washington.

Training includes VFR and IFR approaches to Grant County airport primarily and occasionally at Tri-Cities and Yakima.

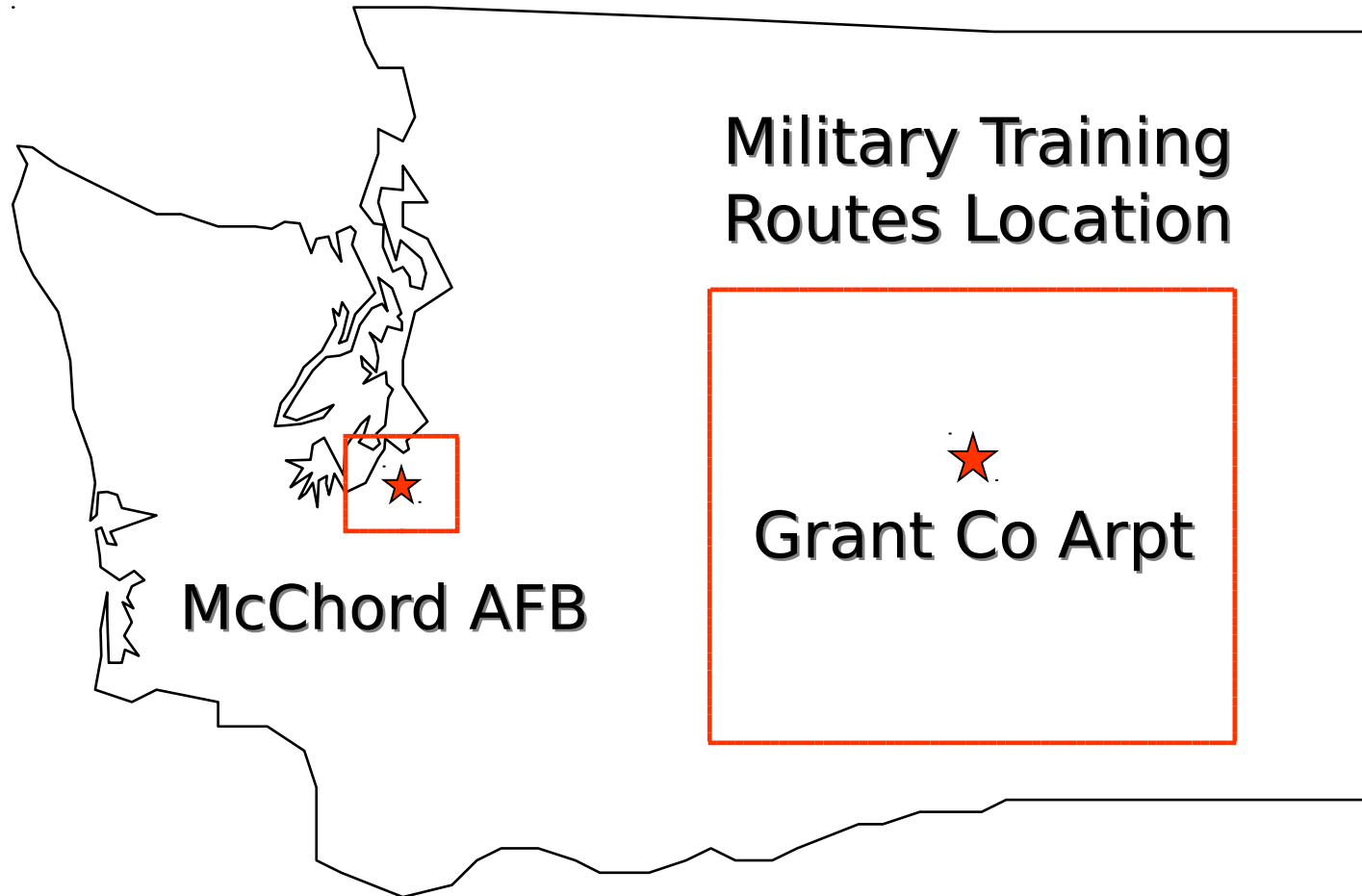


There are a number of drop zones in and around McChord and Fort Lewis, as well as in Eastern Washington. These are used by our aircrews to practice live aerial delivery of heavy equipment and personnel (paratroopers).



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Local Training Areas



The next few slides will highlight the congestion and potential conflicts in our military training route structure.

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Military Training Routes

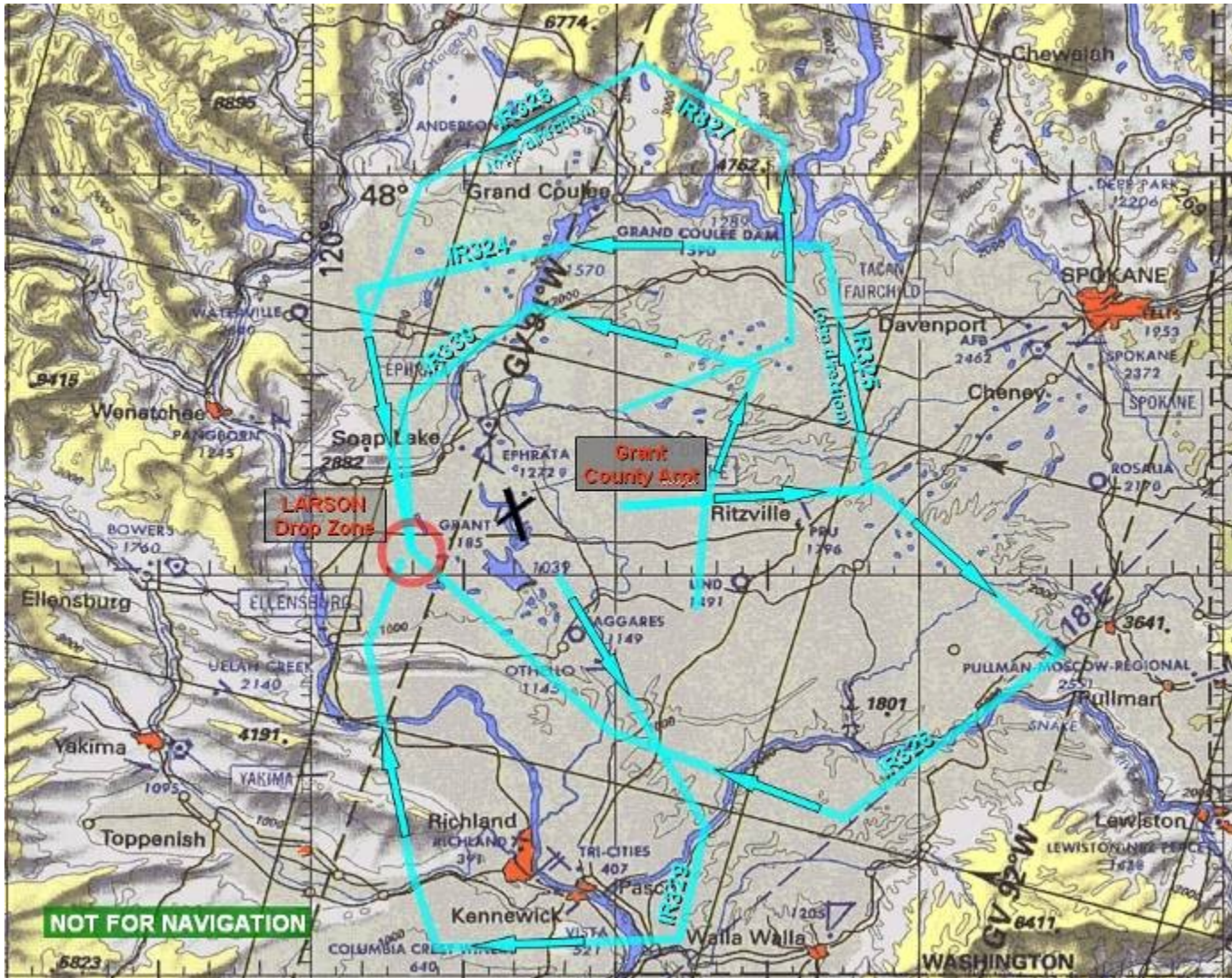


- **Three Kinds - IR/VR/SR**
 - **SR (Slow Route)** < 250 kts, VFR
 - **VR (Visual Route)** > 250 kts, VFR
 - **IR (Instrument Route)** > 250 kts, IFR
- **McChord owns:**
 - **8 IR - Eastern Washington**
 - **1 VR - Western Washington**



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Military Training Routes

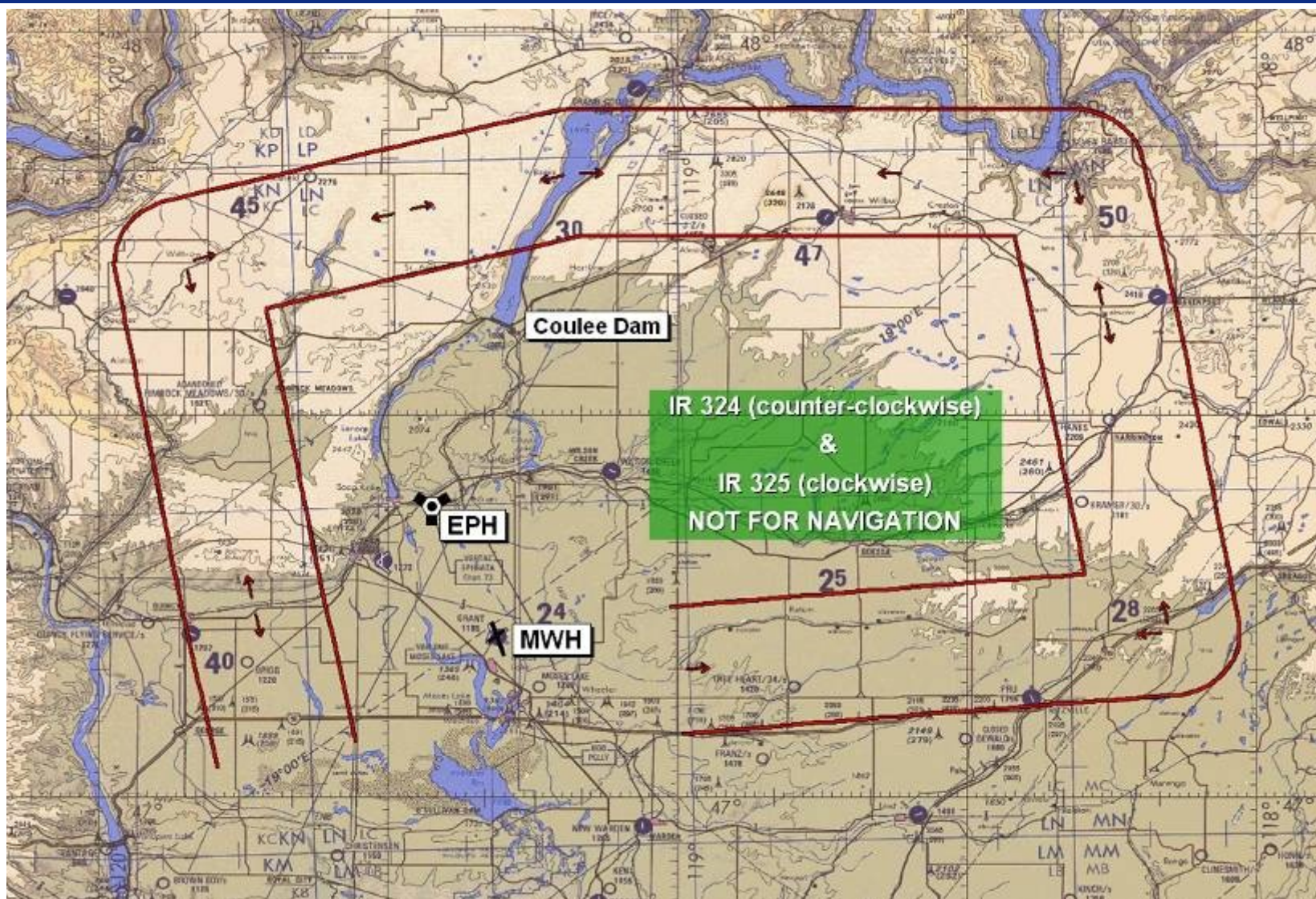


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Military Training Routes

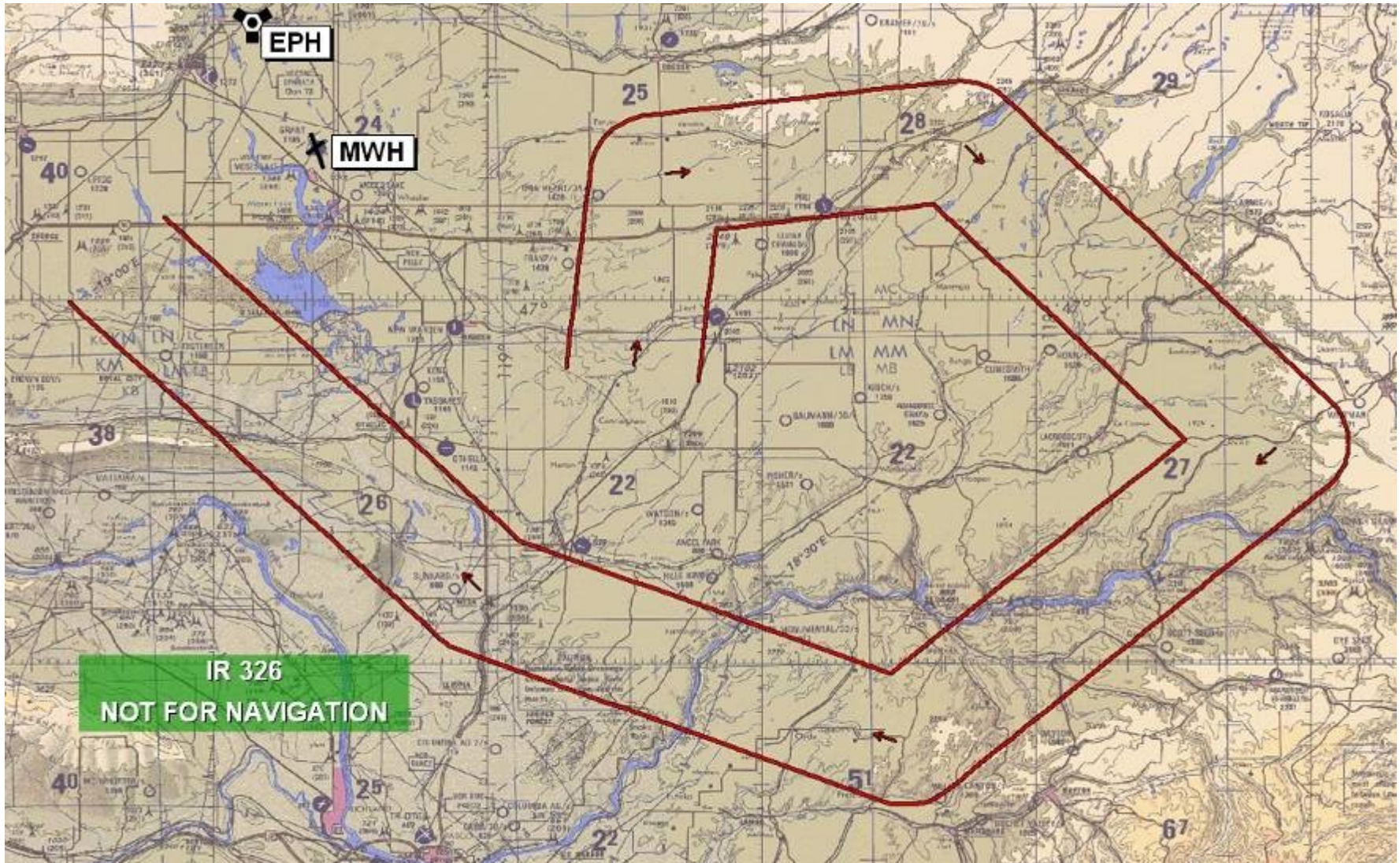


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Military Training Routes

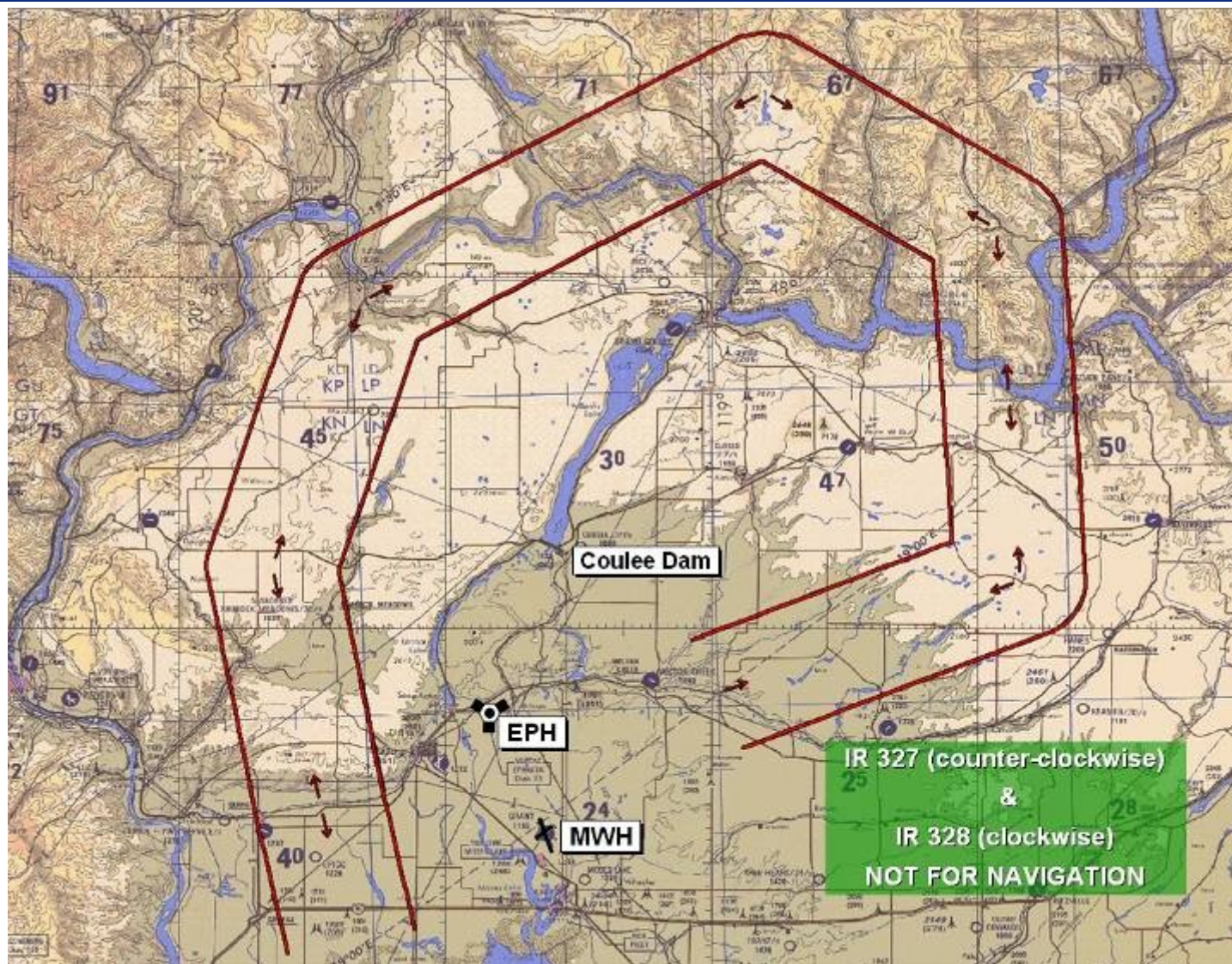


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Military Training Routes

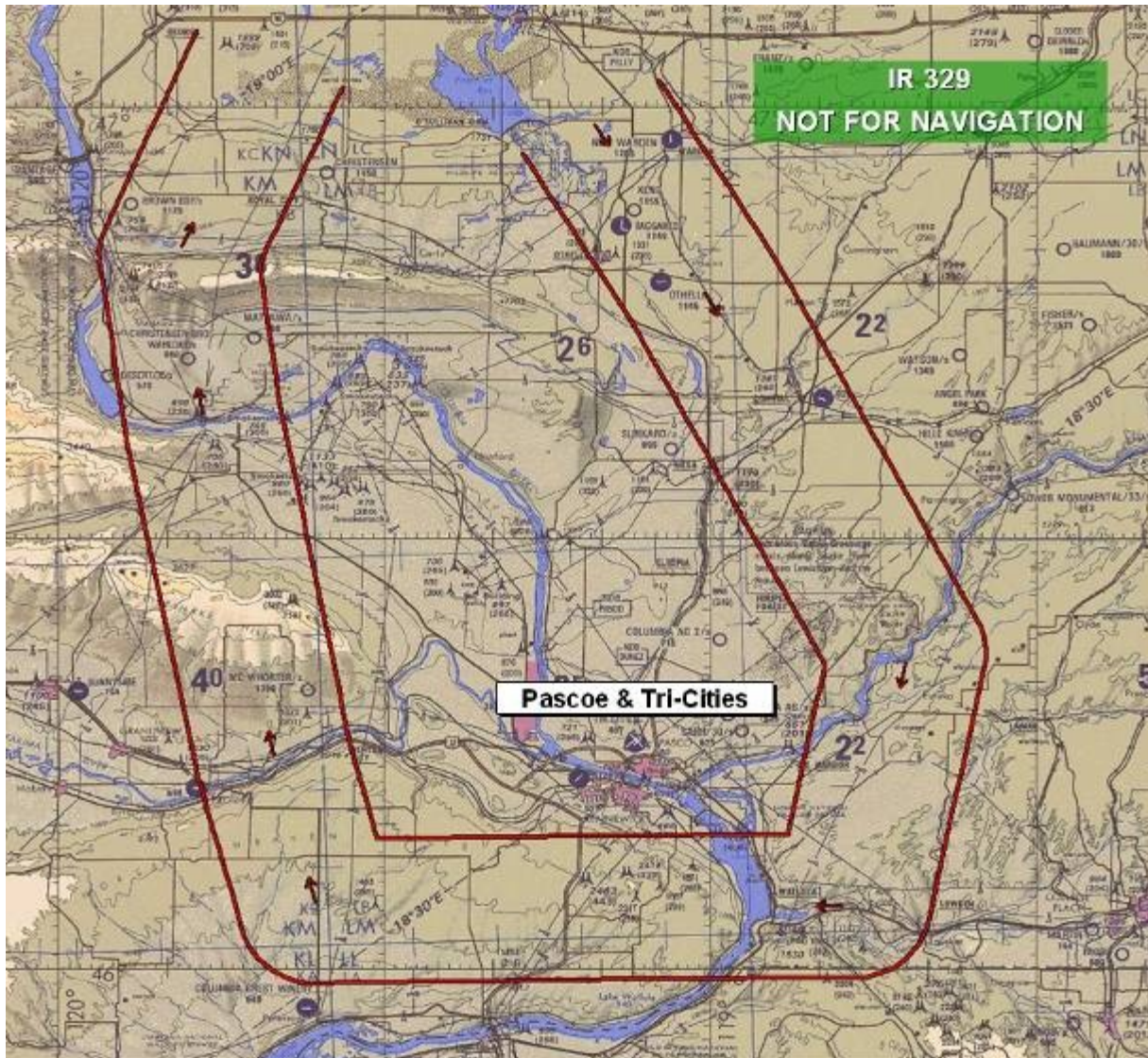


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Military Training Routes

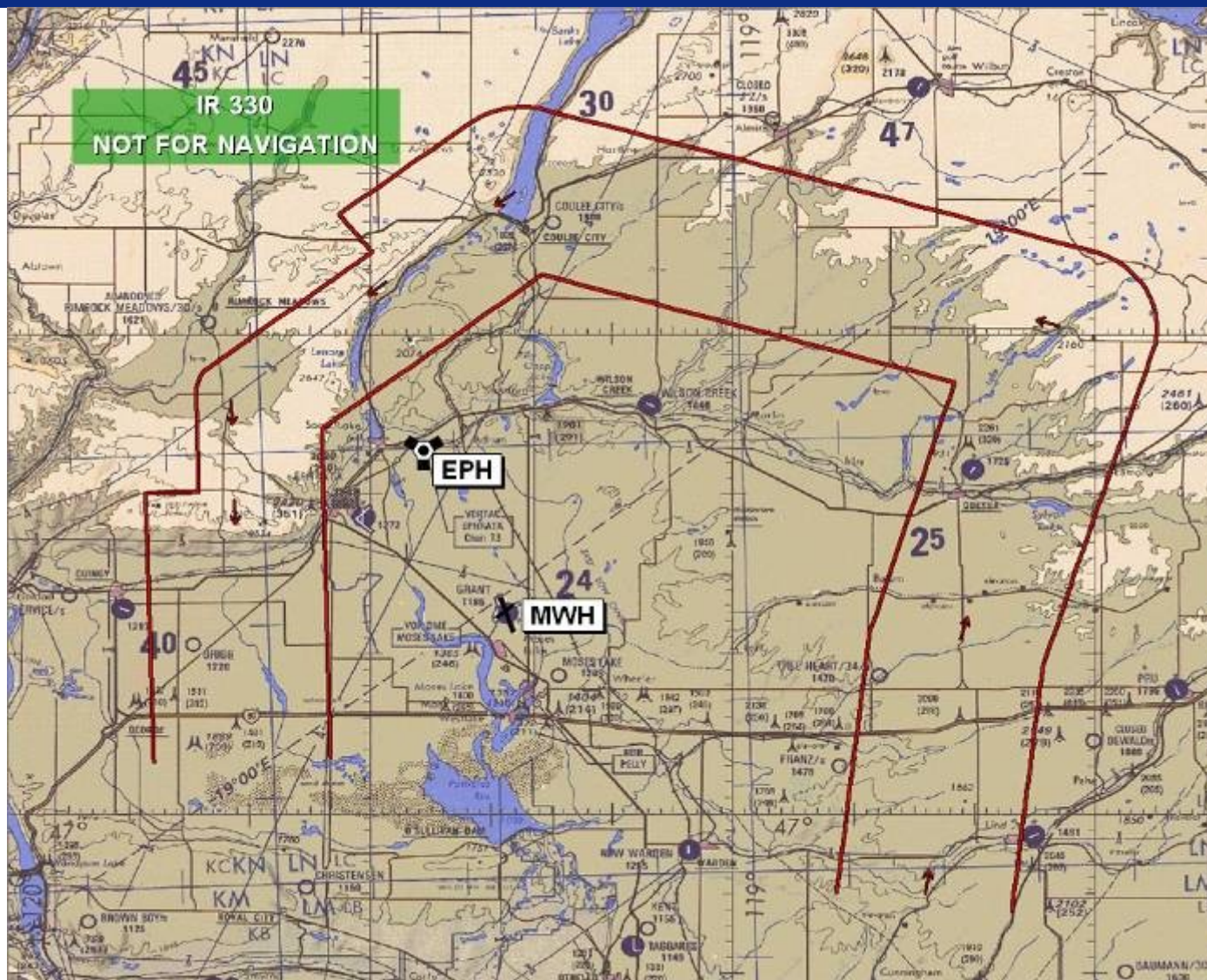


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Military Training Routes

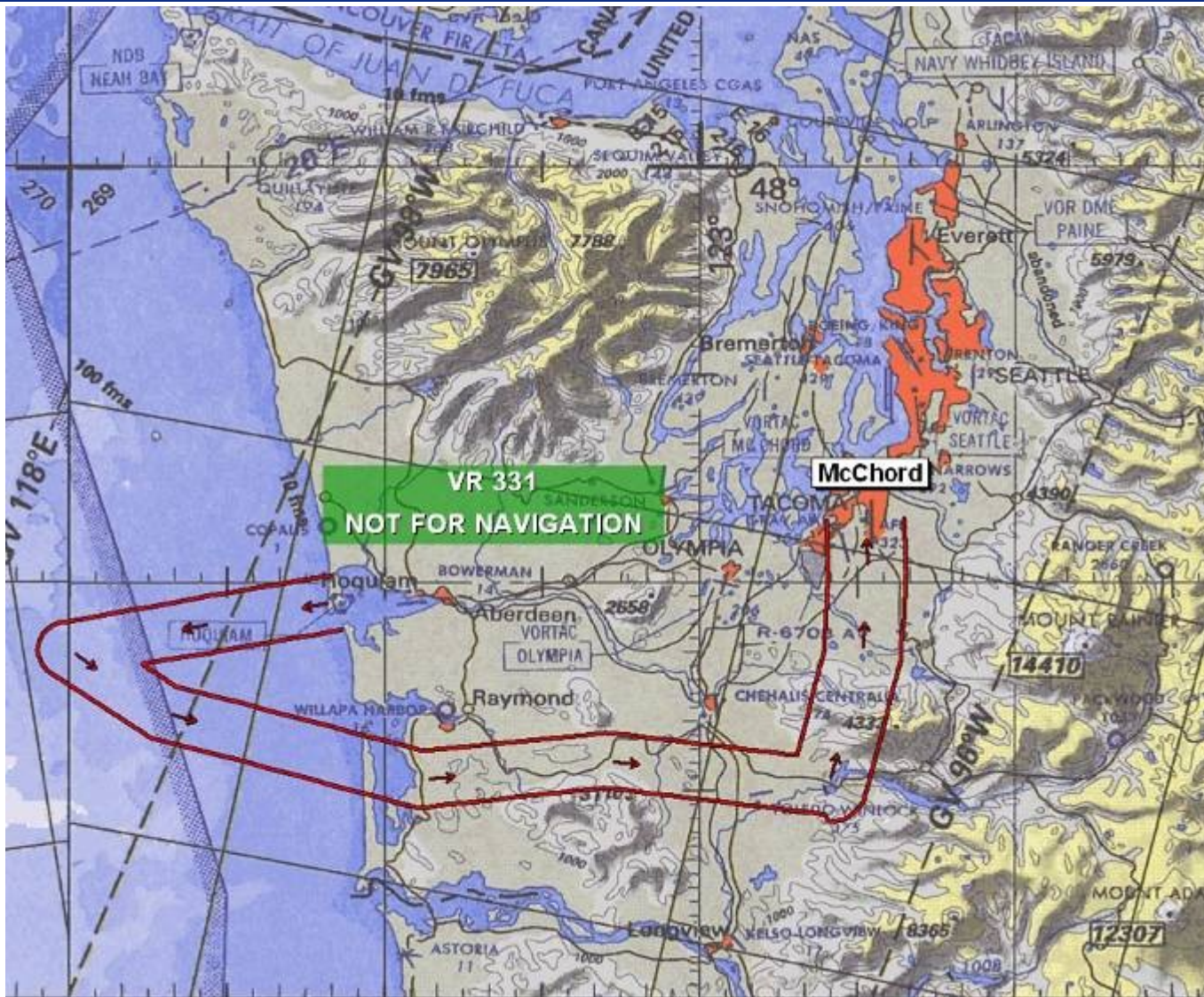


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Military Training Routes

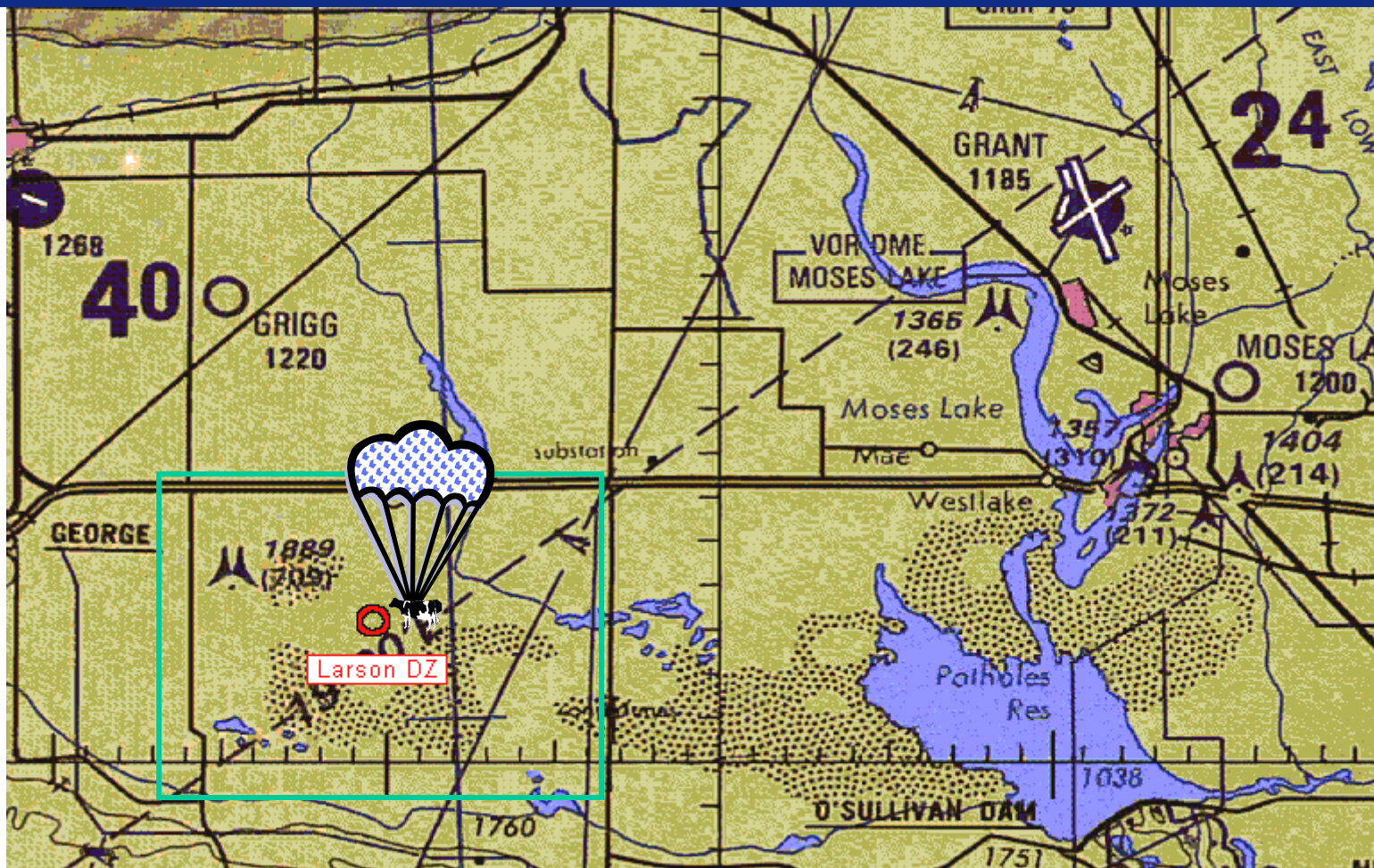


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Military Training Routes



Almost all of the low-levels converge on the same point. This is the Larson Drop Zone.

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Slow Routes (SR)



- **Conducted Under VFR**
 - ✂ **NOT Depicted On Sectional Chart**
 - ✂ **Altitudes: 300' To 1500' AGL**
 - ✂ **5 NM Either Side Of Centerline**
 - ✂ **VFR Flight Following**
 - ✂ ***Compliance With FARs Is Mandatory!***
- **No ATC Clearance Required**
- **Speed Must Be 250 Knots Or Less**
- **Must Be VMC**
- ***See And Avoid!***

**McChord Does Not Own Any Slow Routes and
Does Not Fly On Them!**

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Visual Routes (VR)



- **Visual Flight Rules Apply**
- **Weather Required: 3000' Ceiling / 5 Miles Visibility**
- **Speeds In Excess Of 250 Knots**
- **Must Be Scheduled At Least 2 Hours Prior To Use**
- **FSS On Schedule Distribution**
- **No ATC Clearance Required**



Instrument Routes (IR)

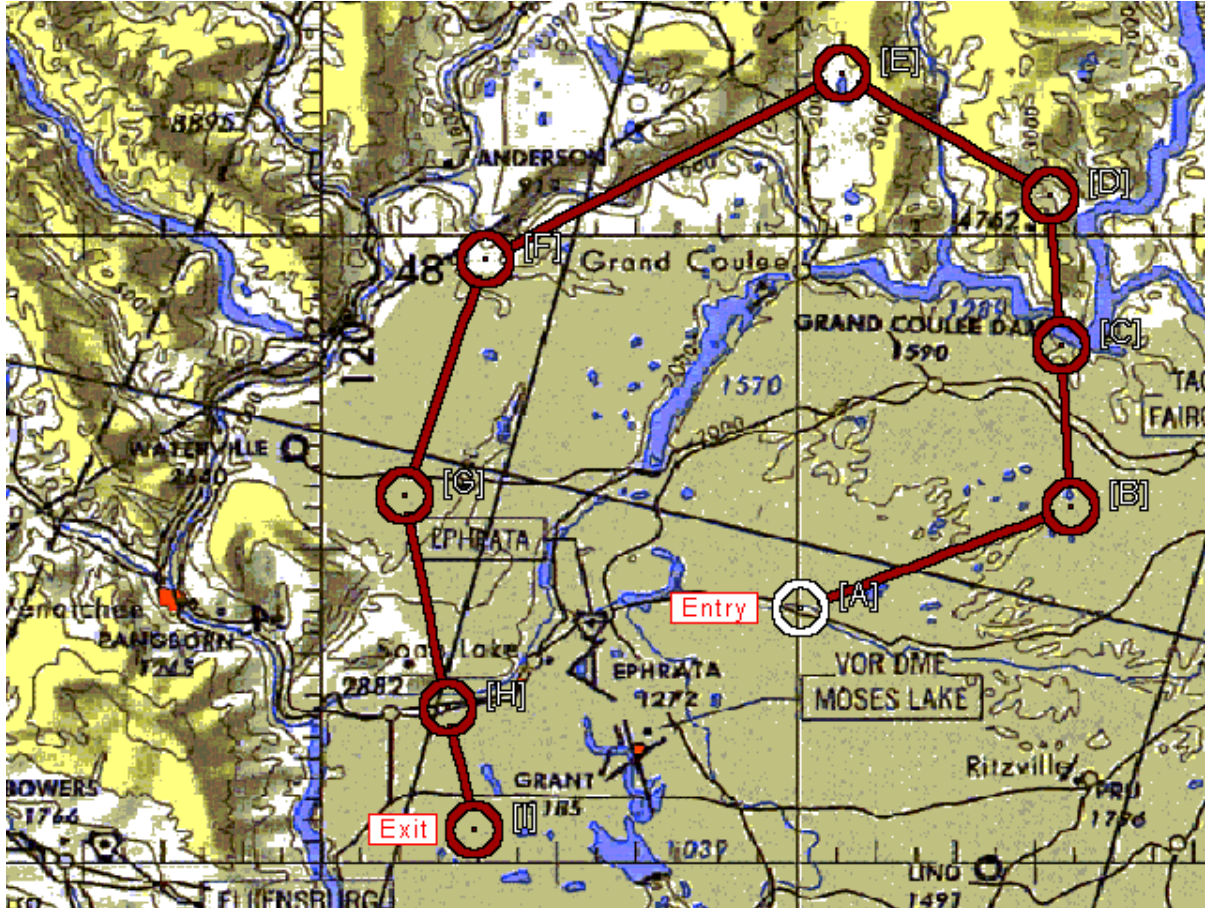


- **Conducted Under IFR**
- **Weather Required: None**
- **Speeds In Excess Of 250 Knots;
C-17s Can Fly Up To 350 Kts**
- **Must Be Scheduled At Least 2 Hours Prior To Use**
- **FSS On Schedule Distribution**
- **Entry Clearance Required (+/- 5 Min)**



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Example IR Routing



Visit our MACA website to see depictions of all of our low-level routes. Learn the names of the routes that pose a hazard to your flying so that the FSS can tell you if they are in use.

<https://public.mcchord.amc.af.mil/maca.html>

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Common Threads to Near-Mid-Air Collisions

- **Human Error: People make mistakes**

- ✂ **Pilots**
- ✂ **Controllers**

- **Communication**

- ✂ **Miscommunication**
- ✂ **No Communication**

- **Environment**

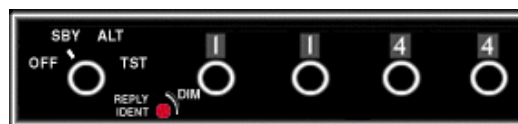
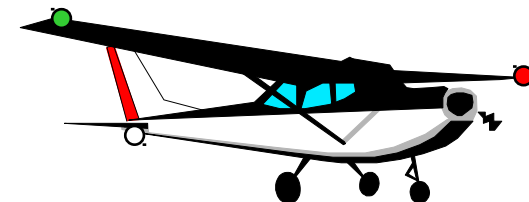
- ✂ **Anywhere**
- ✂ **Anytime**



**PSA Flt 182 after colliding with a Cessna 172.
All aboard both aircraft and seven on the ground
were killed.**

Common Avoidance Techniques

- Become Aware Of Areas Of Greatest Activity
- Fly At Higher Altitudes
- File IFR Flight Plans Or Use VFR Flight Advisories
- Make Your Position Known
 - ✧ External Lights
 - ✧ Radios
 - ✧ Transponder
- Develop Effective Scan



Visit our MACA website and download the Mid-Air Collision Avoidance Pamphlet for an excellent discussion on collision avoidance techniques:

<https://public.mcchord.amc.af.mil/maca.html>



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Scanning Techniques



- **Clear Before Every Turn**
- **During Final Approach Look Above And Below Your Flight Path**
- **Block System**
 - ✂ **10-15 Degree Area**
 - ✂ **Do Not Continually Move Eyes**

**Visit our MACA website for an excellent discussion on collision avoidance techniques:
<https://public.mcchord.amc.af.mil/maca.html>**



Mid-Air Collision Avoidance



If you have any question, call our office:

Flight Safety: (253) 982-3105

Airfield Operations: (253) 982-5215



It's EVERYONE'S Job!!!

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